

REMARKS

In the Office Action, the Examiner rejected claim 26 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter. The Examiner also rejected claims 15 and 17–21 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent 5,552,039 ("*McBrayer*") in view of U.S. Patent 4,199,545 ("*Matovich*") and rejected claim 26 under 35 U.S.C. § 103(a) as unpatentable over *McBrayer* in view of *Matovich* and further in view of Japanese Patent No. 09-085075 ("*Suzuki*"). Applicants do not address the Examiner's rejection of claim 16, which Applicants cancel by this Amendment without prejudice or disclaimer of the subject matter disclosed therein.

Amendment

Applicants have amended claims 15 and 26 to more particularly recite the subject matter of Applicants' invention and to change the dependency of claim 26. Applicants have canceled claim 16 without prejudice or disclaimer of the subject matter disclosed therein. Applicants have also canceled claims 1–14 and 22–25, drawn to non-elected inventions in response to a restriction requirement, also without prejudice or disclaimer of the subject matter disclosed therein. Applicants have also added new claims 28–31 to protect additional aspects of the invention.

Rejection under § 112, ¶ 2

~~The Examiner rejected claim 26 under § 112, second paragraph, as being~~
indefinite for failing to particularly point out and distinctly claim the subject matter. According to the Examiner, "the language of the claim is directed toward a method limitation which renders the claim vague and indefinite as it is unclear as to what

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structural elements the applicants are attempting to recite, since "the pressure holding fluid" is not an element of the apparatus. (September 5, 2003 Office Action at 2.)

Applicants respectfully traverse this rejection of claim 26.

Claim 26 recites, "The pressure treatment apparatus as set forth in claim 15, wherein the third pressure fluid is pressurized water." The "third pressure fluid" is recited in claim 15, and further defined in claim 26 to be pressurized water.

According to the Manual of Patent Examining Procedure, "The essential inquiry pertaining to this requirement is whether the claims set out and circumscribe a particular subject matter with a reasonable degree of clarity and particularity. . . . In reviewing a claim for compliance with 35 U.S.C. 112, second paragraph, the examiner must consider the claim as a whole to determine whether the claim apprises one of ordinary skill in the art of its scope and, therefore, serves the notice function required by 35 U.S.C. 112, second paragraph by providing clear warning to others as to what constitutes infringement of the patent." (MPEP § 2173.02.)

Applicants submit that the language of claim 26 "apprises one of ordinary skill in the art of its scope," as required by § 112, second paragraph. Withdrawal of the rejection is respectfully requested.

Rejection under § 103(a)

To establish a *prima facie* case of obviousness under §103(a), each of three requirements must be met. (1) There must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine references or modify a reference. (MPEP § 2143.01.) (2) A reasonable expectation of success must exist that the proposed modification will work

for the intended purpose. (MPEP § 2143.02.) Moreover, both of these requirements must “be found in the prior art, not in applicant’s disclosure.” (MPEP § 2142.) (3) The reference or references, taken alone or in combination, must disclose or suggest every element recited in the claims. (MPEP §2143.03.) If any one of these elements is missing, as is the case here, there is no *prima facie* obviousness case.

McBrayer in view of Matovich

The Examiner rejected claims 15-21 under § 103(a) as unpatentable over *McBrayer* in view of *Matovich*. Because *McBrayer* in view of *Matovich* fails to render claims 15–21 obvious, Applicants respectfully traverse this rejection of these claims.

Disclosure of each claim element

The Examiner alleged that *McBrayer* discloses “an apparatus 10 comprising: a pressure reactor 12; an exterior vessel 22 . . . ; means for feeding a treatment object 30 or 230 into the pressure reactor 12; means for controlling pressure 38, 40, 42, 43, 44, 46, 48 . . . within the gap 24 between the exterior vessel 22 and the pressure reactor 12 to be higher than that within the pressure reactor 12.” (September 5, 2003 Office Action at 3.)

The Examiner recognized, however, that *McBrayer* is silent as to the means comprising a first solid reservoir and a second solid reservoir. (September 5, 2003 Office Action at 3.) The Examiner alleges, however, that *Matovich* compensates for this deficiency. According to the Examiner:

Matovich (Fig. 8A, 8B, 9, column 11, line 63 to column 12, line 33) teaches a solid reactant feed system 238 for use in combination with a reactor (defined by inlet assembly 200/200a . . .). The system comprises a first solid reservoir (supply bin 240), and a second reservoir (hopper 244) connected to the first solid reservoir 240 through a first

connecting pipe (fine product output 243), and the second reservoir 244 connected to the reactor through a second connecting pipe (housing 246, outlet 250).

(September 5, 2003 Office Action at 3–4.) That is, *Matovich* discloses a feed system 238 comprising a supply bin 240, a crusher 241 for crushing a solid reactant, and a sieve 242 for sieving the crushed solid reactant, and a hopper 244 for receiving the sieved finely divided solid reactant. (*Matovich*, Fig. 9.)

The solid reactant in the hopper 244 of *Matovich* is fed into the reactor through a helical feed screw 247 rotatably mounted within an elongated tubular housing 246, wherein an inlet nozzle 249 for introducing a pressure-sealing fluid into the housing 246 is provided so as to seal the interior of reactor tube 401 from the atmosphere.

(*Matovich*, Fig. 9.)

By contrast, the pressure treatment apparatus of claim 15 comprises, *inter alia*, “means for feeding a solid waste by using gravity into the pressure reactor,” wherein the means for feeding the solid waste comprises “primary crushing means for crushing the solid waste, a first solid reservoir for receiving primary crushed solid waste, and a second solid reservoir which is connected to the first solid reservoir through a first connecting pipe and connected to the pressure reactor through a second connecting pipe,” and wherein “the first connecting pipe provides a first sealing unit and the second connecting pipe provides a second sealing unit,” and “wherein at least the first sealing unit, the first connecting pipe downstream from the first sealing unit, the second solid reservoir, the second connecting pipe, the second sealing unit, and the pressure reactor have a pressure resistant structure”

Thus, claim 15 recites, in part, "*a first solid reservoir for receiving primary crushed solid waste,*" and further "*a second solid reservoir which is connected to the first solid reservoir through a first connecting pipe and connected to the pressure reactor through a second connecting pipe.*"

At best, the Examiner could allege that *Matovich's* hopper 244 corresponds to a first solid reservoir for receiving the primary crushed solid waste of pending claim 15. But *Matovich* must then fail to teach or suggest the second solid reservoir of the present invention. That is, *Matovich* does not disclose or suggest the solid waste feeding system of the present invention, including, at least, the second solid reservoir recited in claim 15. Therefore, even if the solid reactant feeding system of *Matovich* were combined with *McBrayer*, the pressure treatment apparatus of the present application would not result.

Moreover, claim 15 recites, "*means for controlling pressure of the first, second, and third pressure fluids and a pressure within the pressure reactor such that the pressure of the first pressure fluid is higher than the pressure of the second pressure fluid, the pressure of the second pressure fluid is higher than the pressure within the pressure reactor and the pressure of the third pressure fluid is higher than the pressure within the pressure reactor, wherein the exterior vessel is isolated from the solid waste and the reaction medium.*" (Emphasis added) Neither *Matovich* nor *McBrayer* discloses or suggests a combination of elements including at least the above-quoted elements.

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Motivation to Combine References

The Examiner provides no motivation to combine *McBrayer* with *Matovich*.

According to the Examiner,

It would have been *an obvious design choice* for one of ordinary skill in the art at the time the invention was made to provide the solid reactant feed system of *Matovich* for the means for feeding a treatment object including a solid waste in the apparatus of *McBrayer, Jr. et al.* because the solid reactant feed system provides a means for introducing solid reactants into the reactor while being sealed from the atmosphere, as taught by *Matovich* (column 12, lines 27-31).

(September 5, 2003 Office Action, at 4 (emphasis added).) An allegation of an "obvious design choice," however, does not establish a motivation to combine references. *In Re Dembiczak*, 175 F.3d 994, 1000 (Fed. Cir. 1999) (a courtesy copy is attached to this Reply for the Examiner's convenience).

Applicants' May 23, 2003 Amendment noted that *McBrayer* and *Matovich* fail to provide any motivation to combine the references. The Examiner responded: "[T]he test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references." (September 5, 2003 Office Action, at 9.)

The fluid wall reactor of *McBrayer*, however, is different from the pressure reactor as recited in *Matovich*, wherein the reactor tube is made of porous fabric of fibrous material. The reactor of *McBrayer* is for treating an aqueous liquid, which does not need specific feeding means. For this reason, as shown in Fig. 1 of *McBrayer*, a fluid tube 30 having a fluid exit 32 at the top of the fluid tube 30 is protruded in the reaction chamber 12. The aqueous liquid (pressurized water and oxidant: column 12, line 7-8)

is upwardly fed to the reactor through the fluid tube 30. Consequently, the reactor of *McBrayer* can only treat an aqueous liquid. It would be impossible to apply the reactor of *McBrayer* for treating a solid waste, since the feeding system of *McBrayer* cannot feed a primary crushed solid waste. Consequently, there is no motivation to combine the feeding system of *Matovich* with the reaction chamber isolated from the annulus of *McBrayer*, and the references teach away from such a combination.

Reasonable Expectation of Success

Matovich includes a reactor tube made of a porous fabric of a fibrous, refractory material, installed in a tubular pressure vessel. That is distinctly different from the structure and function of the pressure treatment apparatus disclosed in *McBrayer*. Yet the Examiner identifies nothing in *McBrayer* or *Matovich* that teaches or suggests that one would expect that the teachings may be reasonably successfully combined, as required to make a *prima facie* rejection under § 103(a).

Because *Matovich* in view of *McBrayer* fails to disclose each element of claim 15, there is no motivation to combine the references and, in fact, the references teach away from combination, and there is no reasonable expectation of success, Applicants submit that claim 15 is allowable over *Matovich* in view of *McBrayer*. Applicants also submit claims 17–21 are likewise allowable at least because of their dependence from allowable claim 15.

McBrayer in view of *Matovich* and further in view of *Suzuki*

The Examiner also rejected claim 26 under § 103(a) as unpatentable over *McBrayer* in view of *Matovich* and further in view of *Suzuki*. *Suzuki* fails to overcome the deficiencies of *McBrayer* and *Matovich*.

McBrayer in view of *Matovich* fails to disclose each element of claim 15; there is no motivation to combine *McBrayer* with *Matovich*; and there is no reasonable expectation of success. *Suzuki* fails to disclose or suggest each element recited in claim 15; fails to provide a motivation to combine *McBrayer* with *Matovich*; and fails to provide a reasonable expectation of success. Thus, *McBrayer* in view of *Matovich* and further in view of *Suzuki* fails to render claim 15 obvious and likewise must fail to render claim 26 obvious, at least because of its dependence from allowable claim 15.

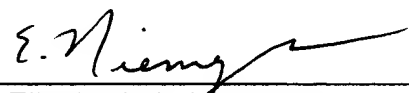
In view of the foregoing remarks, Applicants respectfully request reconsideration of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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GARRETT & DUNNER, L.L.P.

Dated: December 4, 2003

By: 
Elizabeth A. Niemeyer
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Attachment:

Courtesy copy of *In Re Dembiczak*,
175 F.3d 994, 1000 (Fed. Cir. 1999).

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